# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/872,524 | 06/01/2001 | William Hoath | 01261 | 3311 |

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| 7590      04/07/2005 | EXAMINER |
| Mark G. Kachigian, | AKLILU, KIRUBEL |
| Head, Johnson & Kachigian | |

| ART UNIT | PAPER NUMBER |
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| 2614 | |

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DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 09/872,524 | HOATH, WILLIAM |
| | Examiner | Art Unit | |
| | Kirubel Aklilu | 2614 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on _01 June 2001_.

2a)☐ This action is **FINAL**.        2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) _1-5_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-5_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _01 June 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *  c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _8/01/2001_.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

# DETAILED ACTION

## *Claim Objections*

- Claim 5 is objected to because of the following informalities:  Claim 5

  recites the limitation "the Ethernet" and "the Out of Band data" in lines 7-8

  of page 9.  There is insufficient antecedent basis for these limitations in

  the claim.  Appropriate correction is required.

## *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by

Quigley et al. (U.S. Patent # 6,785,564).

1. As for **Claim 1**, Quigley et al. teach a system for the transmission of digital data, said

system comprising:

transmission of digital data from a broadcast location to a plurality of receiver

locations (see fig. 1 unit 10, unit 12 Headend and unit 16 Cable Modem, col.4 lines 35-

55 "CMTS 14 functions as a modem which serves a large number of subscribers each

subscriber having customer premise equipment such as for example a cable modem 16

via a HFC network 18"), said system comprising:

each receiver location including a broadcast data receiver for the processing of

the data and generation of video, audio and/or auxiliary data, each receiver including a

DOCSIS modem or equivalent (see Fig. 5 Cable Modem 16, see col. 8 lines 24-58 "An

exemplary cable modem is shown schematically in Fig. 5 . . .DOCSIS MAC 134 extracts

DOCSIS MAC frames from MPEG-2 frames, processes MAC headers, and filters and

processes messages and data . . .In the described exemplary embodiment the OOB

messages are encoded in accordance with the MPEG-2 format . . .Additionally, an

I.EEE 802.3 compliant media independent interface 148 in conjunction with an Ethernet

MAC 146 may also be included to provide bi-directional data exchange between

communications devices such as for example a number of PCs and or Ethernet phones

and the far end data terminating device." The MPEG-2 format is used to encode video

data therefore, it is interpreted that the data in the MPEG-2 format corresponds to digital

video data.), and wherein at the broadcast location or head end of the system there is

provided a transcoder unit which transcodes data from an out of band data stream

generated at the head end into a format such that, when received by the receiver, the

same is received and processed via the DOCSIS modem (see fig. 2 and fig. 4 unit 38

OOBG PHY, col. 7 lines 9-35 "Referring to Fig. 4, an exemplary OOBG PHY 38 for

transmitting out of band messages accepts a serial data stream 80 and transmits

control inputs 82 from the MMG.  OOBG PHY 38 outputs an analog modulated, filtered,

data burst containing data at a variable rate in one of a plurality if modulation formats

including for example, n/4 DQPSK, QPSK or 16-QAM. The modulated burst may

consist of a power, ramp up, preamble, data, FEC, ramp down, guard time and power in

each burst. OOBG PHY 38 may further provide a data bit clock for synchronizing data .

. .Buffered data signals 86(a) are forwarded to a forward error correction (FEC) interface

88 that utilizes a block coding scheme to provide coding gain to minimize the effects of

both Gaussian noise and impulse noise".) The examiner interprets the OOBG PHY to

be a transcoder unit which receives out of band data stream that is generated by unit 36

OOBG (Out-of-band Generator) and filters, performs forward error correction coding,

and modulates in variable formats such as n/4 DQPSK, QPSK or 16-QAM. The

processes filtering, performing forward error correction coding, and modulating in

variable formats such as n/4 DQPSK, QPSK or 16-QAM is interpreted to be reformatting

the out-of-band data stream, which will be transmitted and processed via the DOCSIS

modem of the receiver location (see Fig. 4 unit 112 combiner and 116 PROG Attn, col.

8 lines 11-18 "A combiner 112 combines modulated I and Q signals and ad digital to

analog (D/A) converter 114 converts combined modulated signal to an analog

waveform. . . A programmable attenuator 116 may incrementally attenuate analog

output signal by a maximum of about 25 dB. **The attenuated output signal is**

**forwarded to an out of band receiver of the cable modem** (not shown)").

2. As for **Claim 3**, Quigley et al. teach the transcoder unit transcodes data between the

out-of-band data stream and Ethernet to allow the transmission of the transcoded data

and reception of same by a plurality of receivers in the transcoded format (see col. 8

lines 53-58 "Additionally, an I.EEE 802.3 compliant media independent interface 148 in

conjunction with an Ethernet MAC 146 may also be included to provide **bi-directional**

data exchange between communications devices such as for example a number of PCs

and or Ethernet phones and the far end data terminating device." When Ethernet is

used as the method of transmission of the out-of-band data between the receiver

locations and headend, it is interpreted that the transcoder unit transcodes data

between the out-of-band data stream and Ethernet.)


3. As for **Claim 4**, Quigley et al. teach a system for the transmission of digital data, said

system comprising:

transmission of digital data between a broadcast location and a plurality of

receiver locations (see fig. 1 unit 14 CMTS Line Card, 18 HFC Network, and 16 Cable

Modem, col.4 lines 46-49 "CMTS 14 functions as a modem which services a large

number of subscribers each subscriber having customer premise equipment such as for

example a cable modem 16 via a HFC network 18"), each receiver location including a

broadcast data receiver (18) for the processing of the data and generation of video,

audio and/or auxiliary data from said received data (see Fig. 5 Cable Modem, see col. 8

lines 24-58 "An exemplary cable modem is shown schematically in Fig. 5 . . .DOCSIS

MAC 134 extracts DOCSIS MAC frames from MPEG-2 frames, processes MAC

headers, and filters and processes messages and data . . .In the described exemplary

embodiment the OOB messages are encoded in accordance with the MPEG-2 format . .

.Additionally, an I.EEE 802.3 compliant media independent interface 148 in conjunction

with an Ethernet MAC 146 may also be included to provide bi-directional data exchange

between communications devices such as for example a number of PCs and or

Ethernet phones and the far end data terminating device." The MPEG-2 format is used

to encode video data therefore, it is interpreted that the data in the MPEG-2 format

corresponds to video data. ), each broadcast data receiver including a DOCSIS modem

or equivalent (see fig. 2 unit 34 DOCSIS MAC), and capable of transmitting data from

the receiver to the broadcast location (see col. 8 lines 53-58 "Additionally, an I.EEE

802.3 compliant media independent interface 148 in conjunction with an Ethernet MAC

146 may also be included to provide **bi-directional** data exchange between

communications devices such as for example a number of PCs and or Ethernet phones

and the far end data terminating device.".  It is interpreted that during a bi-directional

data exchange between two PCs, data is transmitted upstream from the first PC

location to the headend, and transmitted from the headend to the second PC.

Therefore, data is transmitted from the receiver to broadcast location during a bi-

directional data exchange between communication devices such as a number of PCs

and/or Ethernet phones.) and characterized in that in the transmission of data from a

receiver to the broadcast location there is provided a data reformatting unit which upon

receiving data from any of the receivers reformats the same as required (see fig. 2 unit

32 Upstream Demodulator, see col. 5 lines 22-26 "cable modem termination system 14

includes an upstream demodulator 32 for facilitating the reception of data

communications from the cable modems." and see col. 6 lines 18-27 "Upstream

demodulator 32 accepts an analog signal and amplifies and digitizes the signal with an

integrated programmable gain amplifier and A/D converter. The digitized signal is

demodulated with recovered clock and carrier timing. Matches filters and adaptive

filters remove multipath propagation effects and narrowband co-channel interference.

An integrated decoder may also perform error correction and forwards the processed

received data, in either parallel or serial MPEG-2 format to DOCSIS MAC 34."

Upstream demodulator 32 is interpreted to be a data reformatting unit located at the

broadcast location which upon receiving data from any of the receivers, reformats the

received data as required.).

4. As for **Claim 5**, Quigley et al. teach the reformatting unit at the broadcast location

allows for transcoding of data between the Ethernet and the Out of Band data. The

examiner interprets that the upstream data that is transmitted from the receiver (16) to

the broadcast location (14) is the Out-of-Band data. (see col. 8 lines 53-58 "Additionally,

an I.EEE 802.3 compliant media independent interface 148 in conjunction with an

Ethernet MAC 146 may also be included to provide **bi-directional** data exchange

between communications devices such as for example a number of PCs and or

Ethernet phones and the far end data terminating device." And see fig. 2 unit 32

Upstream Demodulator, see col. 5 lines 22-26 "cable modem termination system 14

includes an upstream demodulator 32 for facilitating the reception of data

communications from the cable modems." and see col. 6 lines 18-27 "Upstream

demodulator 32 accepts an analog signal and amplifies and digitizes the signal with an

integrated programmable gain amplifier and A/D converter. The digitized signal is

demodulated with recovered clock and carrier timing. Matches filters and adaptive

filters remove multipath propagation effects and narrowband co-channel interference.

An integrated decoder may also perform error correction and forwards the processed

received data, in either parallel or serial MPEG-2 format to DOCSIS MAC 34." When

Ethernet is used to provide the bi-directional data exchange between communication

devices such as a number of PCs and/or Ethernet phones, and the data that is

transmitted upstream is Out-of-Band, it is interpreted that the upstream demodulator

transcodes data between Ethernet and out-of-band data format because the upstream

demodulator accepts data from the receiver locations that are transmitted using

Ethernet, formats the out-of-band data, and forwards the processed received data to

DOCSIS MAC 34.)

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et

al. (U.S. Patent # 6,785,564) in view of Mauro et al (U.S. Patent # 6,757,909).

5.  As for **Claim 2**, the claim differs in that Quigley et al. do not expressly teach that the

broadcast receivers do not include an out-of-band tuner.  However, Maruo et al. teach a

system for the transmission of digital data from a broadcast location to a plurality of

receiver locations, wherein out-of-band data streams such as scramble key and service

information data (such as Electronic Program Guide) are transmitted in-band or via the

Internet in order to eliminate the presence of an out-of-band tuner at the receiver

location.  It is well known in the art that service information and scramble key are

typically transmitted using out-of-band frequency channels (see Mauro et al. col.2 lines

13-18 "The in-band downstream range is used by the set top box for receiving audio

and video content.  The OOB downstream range is used by the set-top box for receiving

service information (e.g., electronic programming guide information, EPG) and for

receiving the scramble key used by the set-top box to descramble a scrambled

broadcast signal.").  Mauro et al. in their invention teach transmitting out-of-band data

streams (such as scramble key and Electronic Program Guide) using in-band channels

or the World Wide Web in order to eliminate the need for an out-of-band tuner at the

receiver location (see Mauro et al. col. 3 line 60 – col. 4 line 42 "The present invention

pertains to an apparatus and method thereof for communicating a scramble key (for

descrambling scrambled digital signals) and service information (such as that used in an

electronic program guide) to an intelligent receiver (e.g. a set-top-box) using a bi-

directional digital broadcasting system (e.g., satellite systems, interactive World Wide

Web access systems, and digital cable systems).  The intelligent transceiver includes

an in-band tuner adapted to receive from the digital broadcast system in-band digital

signals comprising audio content and video content. The intelligent transceiver also

includes a second tuner to receive a scramble key over the World Wide Web via a cable

modem . . . The service information (including electronic programming guide

information) is sent either with the in-band signal or over the World Wide Web and is

received via the in-band tuner or the cable modem, respectively . . .Therefore, it is not

necessary for the broadcast system to use out-of-band signals to send service

information and a scramble key. Consequently, the intelligent transceiver does not

require an out-of-band tuner and demodulator to receive the service information and

scramble key, and so these devices can be omitted from the intelligent transceiver. As

a result, broadcast systems can be simplified, thereby reducing costs."). In light of the

teaching of Mauro et al., it would have been obvious to one of ordinary skill in the art at

the time the invention was made to transmit the digital data stream of Quigley et al.

using in-band channel in order to eliminate the need of an out-of-band tuner at the

receiver location. One of ordinary skill in the art would have been motivated to transmit

the digital data stream in-band and to eliminate the presence of an out-of-band tuner at

the set-top box receiver terminals in order to reduce the cost and complexity of the set-

top-box receiver terminals.

### Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- LaJoie et al (U.S. Patent # 6,049,333) teaches a system and method for providing an event database in a telecasting system using out-of-band data stream.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirubel Aklilu whose telephone number is 571-272-7342. The examiner can normally be reached on 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KA

3/14/05

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